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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,658	07/22/2002	Alvin Berger	112843-044	6858

29157 7590 07/17/2007

BELL, BOYD & LLOYD LLP
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EXAMINER	
EBRAHIM, NABILA G	

ART UNIT	PAPER NUMBER
1618	

NOTIFICATION DATE	DELIVERY MODE
07/17/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATENTS@BELLBOYD.COM

Office Action Summary	Application No.	Applicant(s)	
	10/089,658	BERGER ET AL.	
	Examiner	Art Unit	
	Nabila G. Ebrahim	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/20/07 has been entered.

Status of Claims:

Claims 1, and 3-25 are pending in the application and are amended.

Status of Office Action: Non-Final.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 17 and 23-25 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating some health problems by using an anandamide or one of its precursors, does not reasonably provide enablement for the prevention of theses health problems. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. Enablement is considered in view of the Wands factors (MPEP 2164.01 (a)). These include: (1) breadth of the claims; (2) nature of the invention; (3) state of the prior art; (4) amount of direction provided by the inventor; (5) the level of predictability in the art; (6) the existence of working examples; (7) quantity of experimentation needed to make or use the invention based on the content of the disclosure; and (8) relative skill in the art. All of the factors have been considered with regard to the claim, with the most relevant factors discussed below:

1) The breadth of claims: claim 17 and its dependent claims are directed to a method of preventing an anandamide mediated ailment selected from the group consisting of hypertension, glaucoma, insomnia, pain, inflammation, migraine headaches, loss of appetite, nausea, cramps, etc. This is a very broad claim, one that is not supported by the instant specification.

2) The nature of the invention: The invention is drawn to a composition for oral administration comprising a naturally occurring precursor that is a compound having anandamide activity for use as a medicament. The rejected claims, however, are drawn to a method of preventing an anandamide-mediated ailment selected from the group consisting of hypertension, glaucoma, etc.

3) The state of the prior art: The state of the art is very high in terms of compositions comprising anandamide and/or precursors containing compound for the treatment of for example, psychiatric problems, pain, migraine headaches, inflammation, glaucoma, hypertension, and vocalization problems. Although a number of publications describe methods of treating different ailments using compounds comprising anandamides (US 5, 618, 955, US 20040127518), there is no evidence in the prior art that the instant composition would entirely prevent all or any of the listed ailments.

4) The amount of direction provided by the inventor: There is nothing in the specification that would indicate that the current invention prevents all the listed health problems. The prevention of all these ailments is considered a very broad claim. With respect to the methods recited in the instant application, there is a substantial gap between treatment and prevention. Consequently, a burdensome amount of research would be required by one of ordinary skill in the art to bridge this gap.

5) Predictability of the art: The prior does not teach a method of preventing hypertension, glaucoma, insomnia, pain, inflammation, migraine headaches, loss of appetite, nausea, cramps, diarrhea, gut upsets, intestinal motility disturbances, asthma, nervousness, aggressive behavior, excessive timidity, inability to sleep, catalepsy, low mood, depression, spasms, poor motor control, tics, excessive stress, spasticity, multiple sclerosis, and vocalization, poor language acquisition, skin inflammation, and excess nociception.

6) The presence or absence of working examples: Applicant describes no examples in the instant specification, none of which teach a method of preventing of any ailment. Overall, applicant fails to

provide examples indicating that the instant composition can prevent the health problems listed in claim 17 by an oral composition comprising anandamides. Therefore, the practitioner would turn to trial and error experimentation to make/use of the instant compositions for preventing health problems, without guidance from the specification or the prior art.

7) The quantity of experimentation: In the instant case, there is a substantial gap between treatment and prevention. Consequently, a burdensome amount of research would be required by one of ordinary skill in the art to bridge this gap. In order to utilize the composition as claimed, the skilled artisan would be presented with an unpredictable amount of experimentation. An undetermined number of experimental factors utilizing a system for preventing health problems recited in claim 17 by an oral composition comprising anandamide. The factors are not sufficiently discussed in the specification to provide guidance to utilize the invention as claimed.

8) The relative skill of those in the art: the skill of one of ordinary skill in the art is very high, e.g., Ph.D. and M.D. level technology.

Claim 17 and 23-25 remains rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement for the reasons set forth in the office action dated 3/23/06.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 20 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims describe a moiety "R''" which is not present in the structure depicted in the claims. For the purpose of the examining the claims, it is examined as R''=R', however, Applicant is required to explain or correct.

4. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites "CB receptor" which is not clear for which receptor the CB stands.

5. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. the claim recites the step of "synthesizing" as a step in a method for "producing". Since synthesizing means producing, the claim is confusing and unclear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

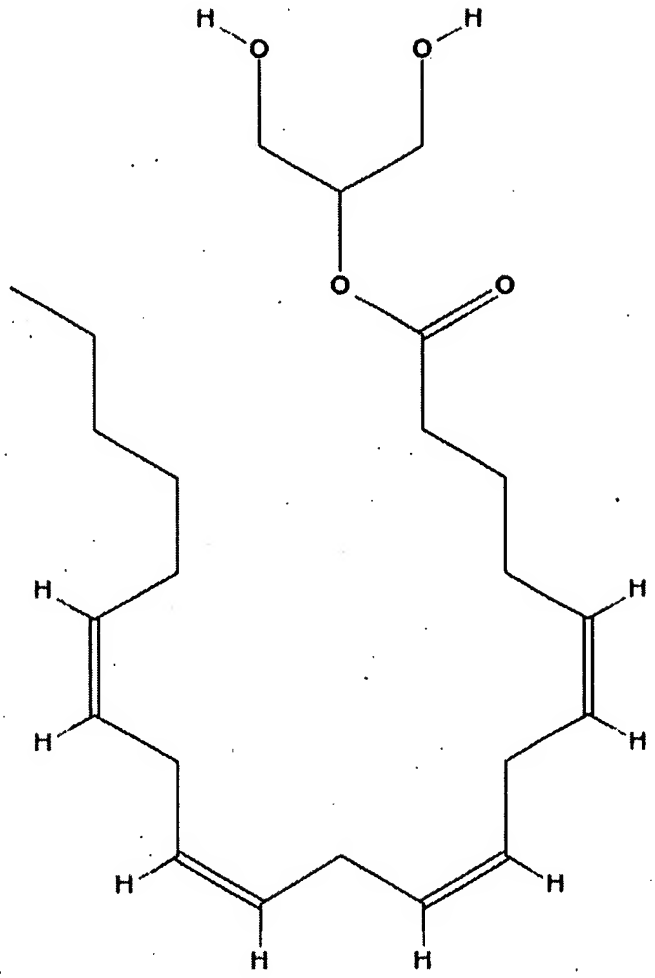
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1 and 4-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Di Marzo V. 2-Arachidonoyl-glycerol as an "endocannabinoid": limelight for a formerly neglected metabolite, Biochemistry (Mosc). 1998 Jan;63(1):13-21 (hereinafter Marzo).

Marzo teaches that alternative precursor for arachidonic acid, 2-arachidonoyl-glycerol has cannabimimetic activity. Marzo discloses that a composition comprising the precursor of arachidonic acid have led to the proposition of a role of the monoglyceride as an "endocannabinoid", starting from its newly discovered pharmacological properties in both central and peripheral tissues and ending with studies on the possible biosynthetic pathways for its formation. Also considered are possible interactions with another arachidonic acid-derived endogenous cannabinoid, anandamide.



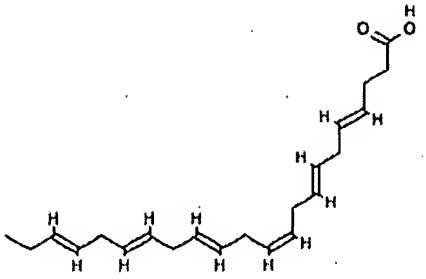
The article discloses the importance of the same sterochemical configuration of AarG which is diglycerides bearing AA in *sn*-2 position. AArG precursors for 2-AG may be formed from the enzymatic hydrolysis of *sn*-2-AA-containing phosphatidic acid (PA) coming also from the PLD-mediated conversion of N-ArPE into ANA. Again, in this case the two "endocannabinoids" may be produced simultaneously (see page 6, and Fig. 3). Marzo also recognized the palmitoylethanolamide and leamide in the process of detecting the importance of anandamide precursors as agonist for cannabinoid receptors (see page 3). Arachidonic acid is known to be naturally occurring in dietary animal source.

2. Claims 1, and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Eric Murillo-Rodriguez et al. Anandamide modulates sleep and memory in rats, Brain Research, Volume 812, Issues 1-2, 23 November 1998, Pages 270-274 (hereinafter Rodriguez)

Rodriguez researched the intracerebroventricular administration of anandamide (ANA) as well as its precursor metabolite arachidonic acid (AA) on the sleep–wakefulness cycle, memory formation, locomotor activity and pain perception, the research found that the compounds affect the brain cannabinoid system which participates in the modulation of the vigilance states and mnemonic processes. Additionally, it has an effect on pain perception. The compounds improve the sleep cycle and help in ameliorating pain. Note that the recitation of "a method of manufacture a composition" in claim 15 has no steps, which reads on the composition recited.

3. Claims 1, 5, 14-20, 22, 23, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kyle et al WO 94/28913 (hereinafter Kyle).

Kyle discloses a method of treating patients suffering from neuro-degenerative ailments associated with DHA or arachidonate (ARA) deficiency (abstract and page 6 lines 1-30, continuing to page % lines 1-5). The oils can be administered as a pharmaceutical composition, as a dietary supplement, or in the form of a food product by replacing a portion of the vegetable oil or fat thereon. The preparation method includes purifying the oil and extracting (which is equivalent to the synthesizing step), see pages 16 and 17.



CID: 6433873

NLM Toxicology: Link

Substance: 1 Link

Related Compounds:
Same, Connectivity: 8 Links
Same, Isotopes: 7 Links

Similar Compounds: 83 Links

Structure Search

Mesh | Synonyms | Properties | Descriptors | Category | Exports

Medical Subject Annotations: (Total:1)

Docosahexaenoic Acids
C22-unsaturated fatty acids found predominantly in FISH OILS.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claim1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Di Marzo V. 2-Arachidonoyl-glycerol as an "endocannabinoid": limelight for a formerly neglected metabolite, Biochemistry (Mosc). 1998 Jan;63(1):13-21 (hereinafter Marzo) in view of Burch et al. US 6552031 (hereinafter Burch)

Marzo has been discussed above.

Marzo does not disclose a combination of an anandamide precursor and NSAID.

Burch teaches that combinations of analgesic drugs causes synergism of its analgesic effect. Burch exemplifies the combinations by using oxycodone and NSAID's (rofecoxib).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine an anandamide and/or an anandamide precursor with NSAID's to enhance the analgesic effect of both drugs. It would also be a good motivation to the skilled artisan to replace oxycodone with anandamide as anandamide derivatives and precursors do not have the addictive characteristics of oxycodone. The ordinary skilled man in the art would have expectation of success sicne NSAID's have been combined with other analgesic drugs successfully and enhanced the effect of analgesia for the patients.

4. Claim 14-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over over Di Marzo V. 2-Arachidonoyl-glycerol as an "endocannabinoid": limelight for a formerly neglected metabolite,

Biochemistry (Mosc). 1998 Jan;63(1):13-21 (hereinafter Marzo) in view of Kyle et al WO 94/28913 (hereinafter Kyle).

Marzo has been described above.

Marzo does not teach a therapeutic composition for oral administration.

The reference is deficient in disclosing the way of manufacturing the therapeutic or the nutrient.

Kyle teaches a method of treating neurological disorders, including certain neurodegenerative diseases and psychiatric disorders, by administering a composition comprising a therapeutically effective amount of a single cell microbial oil comprising docosahexaenoic acid (DHA), a single cell oil comprising arachidonic acid (ARA) or a combination of DHA- and ARA-containing oils, to a person in need of such treatment. The oils can be administered as a pharmaceutical composition, as a dietary supplement, or in the form of a food product by replacing a portion of the vegetable oil or fat thereon. The preparation method includes purifying the oil and extracting (which is equivalent to the synthesizing step), see pages 16 and 17.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to purify the naturally occurring arachidonic acid derivative disclosed by Marzo or use the ARA disclosed by Kyle to treat different disorders as disclosed by the Kyle and make an oral therapeutic product as disclosed by both Mechoulam and Kyle to advance the treatment of these ailments and facilitate to patients taking their therapeutic needs in an easy oral dosage form or nutrient.

Response to Arguments

5. Applicant's arguments filed 3/12/07 have been fully considered but they are not persuasive. Regarding claim 17 Applicant argues that:

For those skilled in the art, the physiological function of CB 1 and CB2 receptors, as well as functional disorders in which these receptors are involved are understood. On the basis of this, the general knowledge of a skilled person and in combination with the information provided in the present specification, the knowledge concerning the treatment or prevention of a specific ailment may be readily transferred to other anandamide mediated ailments such as those listed in Claim 17.

This was not found persuasive because treating is a process of curing improving or ameliorating an ailment which can be accomplished and is known to a skilled artisan, however, it is not known in the art that using precursors of anandamide can PREVENT all the listed ailments and broad symptoms and/or signs recited in claim 17.

Applicants also argue that one having ordinary skill in the art would be, capable of practicing this method without undue experimentation.

To respond: it is not understood how a person of ordinary skill in the art can prevent all these problems by using the recited compounds. For example, gut upsets which may originate from tens of etiologies, how can the skilled artisan prevent such symptoms that may include diarrhea, constipation, abdominal distension, pain, cramps, acute abdominal emergencies such as appendicitis etc. without undue experimentation. Note that the word "prevention" means that this symptom or disease incidence is expected to be at the zero level.

Finally applicants argue that Applicants respectfully submit that compliance with the enablement requirement of 35 U,S.C. 112, first paragraph, does not turn on whether an example is disclosed.

To respond: the Examiner agrees that examples are not essential for a disclosure. However, in case of disclosing a prevention method, the examples would be helpful in proving that it is possible to prevent. Otherwise speculating would need a skilled man in the art undue amount of experimentation to practice the prevention.

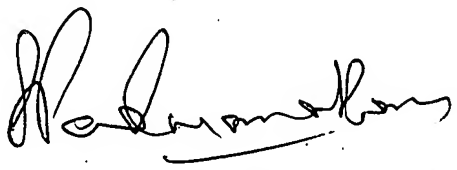
6. Applicant's arguments regarding the rest of the claims have been fully considered but they are not persuasive. Applicant's arguments with respect to claims 1, 3-16, 18-22 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nabila G. Ebrahim whose telephone number is 571-272-8151. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nabila Ebrahim
7/7/07



SREENI PADMANABHAN
SUPERVISORY PATENT EXAMINER